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INFORMATION FROM FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD NO.

50X1-HUM

COUNTRY	USSR - Turkmen SSR
SUBJECT	Economic - Construction materials, mining
HOW PUBLISHED	Daily, weekly newspapers
WHERE PUBLISHED	USSR
DATE PUBLISHED	17 Feb, 13 Apr 1951
LANGUAGE	Russian

DATE OF INFORMATION 1951

DATE DIST. 2 JUN 1951

NO. OF PAGES 3

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE Newspapers as indicated.

TURKMEN SSR HAS UNEXPLOITED RESERVES OF CONSTRUCTION MATERIALS; USE OF LOCAL MATERIALS IMPORTANT IN CANAL BUILDING

MANY BUILDING MATERIALS AVAILABLE -- Ashkhabad, Turkmenskaya Iskra, 17 Feb 51

The Turkmen SSR is rich in various types of construction materials, many of which have not yet been fully investigated. The problem of supplying construction projects with facing materials, such as granite, basalt, tuff, white quartz, and high-grade clay, has not yet been solved.

In many cases, construction organizations have been shipping these materials from other republics, while most of them are available in the Turkmen SSR. For example, the Krasnovodsk area has large deposits of granite, granodiorite, quartz porphyry, and porphyrite, which can be used successfully both for foundations and for facing of large buildings. There are granite and granodiorite outcrops in several places near Krasnovodsk. The largest deposits of granite are found on Ufra Mountain, near the railroad line.

In addition to granite, there are large outcroppings of porphyrite in the vicinity of Krasnovodsk and on Ufra Mountain; this stone has two color varieties: dark green or almost black, and light green. Because of the nearness of the railroad line, transportation of these construction materials would present no difficulties.

Outside the Krasnovodsk area, deposits of granite, quartz porphyry, gabbro, granodiorite, tuff, and basalt are found in the Balkhany Mountains, in Tuarkyr, in Tashauz Oblast, and in the region of Kushka.

Turkmenia not only has ample supplies of facing materials, but also other kinds of construction materials. There are large deposits of white limestone in the area of Krasnovodsk, Nebit-Dag, and Kizyl-Arvat, which have been used for housing construction in these cities. White limestone is now being used widely in the construction of Ashkhabad. Krasnovodsk and Kizyl-Arvat shell limestone can also be used in the cement industry.

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The Turkmen SSR has rich deposits of bentonite and other types of clay, used not only in construction but also in the chemical, machine-building, and petroleum industries. Oglanly bentonite clay is among the highest-grade clay deposits of the USSR. High-grade clay and loam is found in the region of Ashkhabad, Kizyl-Arvat, Bakharden, Nebit-Dag, Krasnovodsk, Tashauz, and other towns.

The clay and loam near Ashkhabad is suitable for production of bricks and tiles; Kizyl-Arvat clay can be used for the production of Portland cement and bricks. There are clay deposits near Kelyata Station, which provide a suitable material for the production of irrigation pipes, floor tiles, Portland cement, and bricks. In addition, Turkmenia is rich in various types of gravel, conglomerates, chalk for writing purposes, etc.

The Turkmenian Geological Administration and the Administration of Construction Materials under the Council of Ministers Turkmen SSR, together with the Institute of Geology, Turkmen Affiliate of the Academy of Sciences, should take a more active interest in finding new deposits of minerals for construction materials, estimating the extent of the resources, and planning ways of utilizing various kinds of local materials.

LOCAL RESOURCES AID CANAL WORK -- Moscow, Promyshlennost' Stroitel'nykh Materialov, 13 Apr 51

The large reserves of natural construction materials in the Turkmen SSR must be placed at the disposal of builders of the Main Turkmen Canal. As a result of extensive research by scientific workers sent to the construction area of the future canal, new data have been obtained regarding the nonmetallic minerals of Turkmenia.

In addition to the well-known mineral resources, such as construction limestone (gyusha), gypsum and clay gypsum, brick clay, etc. prospecting parties have found large deposits of granite, keratophyre, volcanic tuff, marble-like limestone, marl, coarse-grained sand, roofing slate, and light clay of the refractory type. In most cases, these valuable materials are in a geographically favorable location, adjoining the route of the future canal. The reserves of these natural construction materials should be carefully studies so that they may be used as effectively as possible in construction of the canal.

The deposits of raw-material resources on the Krasnovodsk plateau, in the area of Takhia-Tash, and in the foothills of Kopet-Dag are of particular interest. These regions have almost every type of mineral necessary for a wide development of the construction-materials industry and they are closely adjacent to the route of the canal.

Construction of the Main Turkmen Canal will require millions of tons of cement. Is it possible to organize cement production in this construction area? There are considerable deposits of volcanic tuff, of which the Shakh-Adam mountains are composed, on the coast of Soymanova Bay, 4 kilometers from Krasnovodsk, near a good automobile highway. Outwardly these deposits resemble the Artik tuff deposits of Armenia, which are well known to builders in the Caucasus and central areas of the USSR. Not far from the tuff deposits are large reserves of soft white limestone, which make up the greater part of the Krasnovodsk plateau.

As far back as 1933, an expedition of the Academy of Sciences USSR recommended the use of Krasnovodsk tuff, together with limestone, for the production of tuff-silica cement (Puzzolan cement). Just before the war, production of lime-tuff cement for hydrotechnical installations was started in Baku; tuff and limestone from the Krasnovodsk deposits were used.

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Near the route of the future canal are deposits of another raw material necessary for the production of silica cement (Portland cement). The eastern part of the Kuba-Dag plateau is composed of marl, which has been analyzed and found to resemble the type of marl on Markhotskiy Range of the Black Sea Coast; this type is used by Novorossiysk cement plants.

The use of gypsum construction parts, which can replace about 60 percent of wooden parts, is of special importance for the woodless regions of Turkmenia. The Krasnovodsk Construction-Materials Combine should organize large-scale production of construction parts and dry plaster made of gypsum, which is available in large quantities in the Kuba-Dag valley.

Builders of the canal are greatly in need of wall materials. These are necessary for the construction of industrial buildings, dwellings, and auxiliary structures. The excellent properties of Akchagil limestone (gyusha) are well known. Reserves of this limestone are estimated at millions of cubic meters. At present, the limestone deposits are being exploited with primitive methods, using manual labor. Mechanization of the existing quarries could increase the output of limestone at least tenfold and would reduce production costs to about one tenth. It is imperative that the quarries be equipped with modern machinery. Experiments have shown that it is practical to use bulldozers for stripping operations, and stone-cutting machines designed by Stalin Prize laureate Zil'berglit for the cutting operations.

In addition to the main canal, the builders must construct over 1,000 kilometers of secondary canals for supplying water to various regions of the republic. For this purpose, a large number of ceramic pipes are necessary. Turkmenia has more than 20 deposits of light refractory clay, which could be used as raw material for local production of large ceramic pipes. The Ashkhabad Brick Plant made experiments in producing such pipes in 1947 and 1948.

Roofing material is a critical item in Turkmenia. One might recommend the use of roofing slate, a deposit of which is found 4 kilometers from Archman on the Ashkhabad Railroad System. These slate deposits have been carefully investigated, and the production of natural roofing material should be organized in this location. This is of immediate importance, as many dwellings and storage buildings must be constructed this year.

Slate can be used not only as a roofing material, but also for other purposes. In high-speed housing construction, the walls of buildings are made of double sheets of slate, covered with aluminum foil and asbestos felt. These buildings are easy to assemble and to take apart for transport to other construction sectors.

For underwater and above-water structures, canal builders will need several million cubic meters of granite rock. The western part of the Krasnovodsk plateau is adjoined by two peninsulas with an altitude of 200 meters, called Shakh-Adam and Ufa [probably should be Ufra]. These plateaus consist of igneous rocks, including granite, keratophyre, and volcanic tuff, the reserves of which are practically inexhaustible.

All of these deposits could supply natural construction materials not only to the Turkmen SSR, but also to the Lower Volga regions and Baku, where igneous rocks are not available. The Ministry of Construction Materials Industry USSR should assist the Turkmen SSR in organizing large-scale mining enterprises in this republic.

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